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## TC Encore 22-250 Ackley Improved Improved Accuracy Barrel

### Load Development and Accuracy Results for 22-250 Ackley Improved in the Encore

Review and Load Data by Eben Brown

22-250 Ackley Improved is primarily about velocity but also highly reputed for its efficiency. This is due to the nearly straight walls and 40 degree shoulder that give efficient powder burn with little or no bolt thrust. It's a legend among Varmint Hunters.

I began by fire-forming brass from factory Remington 22-250 ammunition. I tried shooting groups with this ammo and accuracy wasn't bad. Good practice for shooting with my handload.

I like a full case of powder, so referencing the VihtaVuori loads for standard 22-250 Remington, I chose the slowest powder listed (V150) and worked up from the published loads. I was surprised to reach maximum at 37 grs and disappointed to see how much space was left in the case. So, I went to the slower V160 powder. This worked better as I went all the way to 43 grains before seeing too



3 Shots at 100 Yds  
50 gr Vmax at 3,843 fps



Std 22-250 Rem (left)  
22-250 Akly Imp (right)



much pressure. 42 grains gave an occasional sticky extraction. So, I backed off to 39.9 grains measured and weighed for every round. This chronographed a 50 gr. Hornady Vmax bullet at an average velocity of 3,843 fps out of a **26" EABCO Encore Accuracy Barrel**.

**Group Shooting** - My best 100 yd group was a 3-shot of just over 1/4". My 5-shot groups were pretty good *for me...* (I choke under pressure). Even so, I managed several dime-sized 5-shot groups at 100 yards.

**Load Data** - Powder charge was 39.9 grs VihtaVuori 160. Bullet was Hornady 50 gr Vmax. Primer CCI BR2. Remington brass. Bullets seated just off rifling.

**Observations, Cautions, and Advise** - This was a pretty quick and dirty load development... ie. I didn't trim the brass, experiment with different bullet seating depths, nor fine tune the powder charge. Even so, I got excellent accuracy and a sense that some fine tuning and better marksmanship would do even better.

**Copper Fouling Note** - Browsing the internet, I found many references to copper fouling with 22-250 Ackley Improved. I think the combination of extreme velocity and a brand new barrel needing break-in can result in copper fouling issues. In my case, three boxes of factory ammo and then 20 rounds of my handloads shot well enough without cleaning or breaking in the barrel. But the next 20 rounds shot keyholes... It was time to clean the copper out of the barrel... I know, I should have broke it in properly but I was in a hurry.

I currently use **USP Bore Paste** for copper removal and barrel break-in (aka "seasoning") it works fast and reliably. You can physically feel the bore getting cleaner and smoother with each stroke of your cleaning rod. And because you



5 Shots at 100 Yards - 3,843 fps  
Encore 22-250 Ackley Improved

can feel the bore cleaning up, you can know you got the copper out. I used USP Bore Paste to clean the bore of this 22-250 Ackley Improved barrel. And after cleaning, I shot the 1/4" group at 100 yards. Excellent stuff!

**Brass Life** - I used no special fire-forming loads. Just fired a box of the cheapest full power Remington factory 22-250 ammo to get my brass. I full length resized and loaded these same 20 cases 5 times in my load development and group shooting. So far, these 20 cases are all perfectly intact and look like they'll last for several more loadings.

Finally, the 22-250 Ackley Improved will definitely benefit from the installation of a... it doesn't hold

Finally, the 22-250 Ackley Improved will definitely benefit from the installation of a **muzzle brake**. It doesn't kick hard, but it would be easier to shoot well with the reduction in recoil and muzzle steadying that a muzzle brake can give.



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